AMENDMENTS TO THE CLAIMS:

Please amend claims 11, 25, 26 and 99. This listing of claims replaces all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

1. (Previously presented) A combination, comprising two collections:

a) a collection of capture agents that specifically bind to preselected polypeptides; and

b) a collection of oligonucleotides that encode the preselected polypeptides to which the capture agents specifically bind, wherein:

i) the collection of capture agents comprises sets of capture agents, and each member of a set specifically binds to the same polypeptide as the other members of the set;

ii) the oligonucleotides are single-stranded, double-stranded or partially double-stranded;

iii) each member of the collection of oligonucleotides comprises a sequence of nucleotides E_m that encodes a preselected polypeptide;

iv) the preselected polypeptides encoded by the oligonucleotides comprise the polypeptides to which the capture agents bind;

v) each oligonucleotide comprises the formula:

5'-E_m- 3;

vi) each Em encodes a preselected polypeptide to which each member of a set of the ~~a~~ capture agents in the collection specifically binds;

vii) the polypeptide encoded by each E_m is unique among the polypeptides encoded by the collection of oligonucleotides;

viii) m is at least 10;

ix) the collection of capture agents comprises at least M different sets of capture agents;

x) M is least 10 and is the number of different polypeptides encoded by the oligonucleotides for which capture agents in the collection are specific;

xi) members of each set of capture agents are specific for the same preselected polypeptide; and

xii) all sets of capture agents specifically bind to different polypeptides encoded by the oligonucleotides.

2. (Previously presented) The combination of claim 1, wherein the capture agents are antibodies.

3. (Previously presented) The combination of claim 1, wherein the capture agents are arranged as an addressable array.

4. (Previously Presented) The combination of claim 1, wherein the capture agents are antibodies and portions thereof that specifically bind to antigens or sequences of amino acids.

5. (Original) The combination of claim 1, wherein the capture agents are linked directly or indirectly to a solid support.

6. (Original) The combination of claim 2, wherein the antibodies are linked directly or indirectly to a solid support.

7. (Original) The combination of claim 5, wherein the support is particulate.

8. (Previously Presented) The combination of claim 5, wherein the collection of capture agents comprise an array that is addressable.

9. (Previously Presented) The combination of claim 6, wherein the collection of capture agents comprise an array that is addressable.

10. (Original) The combination of claim 7, wherein the particles are optically encoded.

11. (Currently amended) The combination of claim 1, wherein each of the oligonucleotides comprises at least two regions, wherein the regions are a divider region that contains a sequence of nucleotides that comprise a sequence unique to a target library, $$ and a polypeptide-encoding region (E_m) that encodes a polypeptide to which a capture agent in the collection binds.

12. (Previously Presented) The combination of claim 11, wherein the divider region is 3' of the polypeptide-encoding region.

13. (Previously Presented) The combination of claim 11, wherein the divider and polypeptide-encoding regions comprise at least 10 nucleotides.

14. (Previously Presented) The combination of claim 13, wherein the divider and polypeptide-encoding regions comprise at least 15 nucleotides.

15. (Previously Presented) The combination of claim 13, wherein each of the oligonucleotides further comprises a common region, wherein the common region is shared by each of the oligonucleotides in the set, and is of a sufficient length to serve as a unique priming site for amplifying nucleic acid molecules that comprise the sequence of nucleotides that comprises the common region.

16. (Previously Presented) The combination of claim 15, wherein the common region is 3' of the polypeptide-encoding region and/or of the divider region.

17. (Previously presented) The combination of claim 1, wherein each oligonucleotide encodes a plurality of preselected polypeptides to which the capture agents bind.

18. (Previously presented) The combination of claim 17, wherein the plurality is three.

19. (Original) The combination of claim 1, wherein the capture agents are immobilized at discrete loci on a solid support, wherein the capture agents at each loci specifically bind to one of the preselected polypeptides.

20. (Previously Presented) The combination of claim 19, wherein the capture agents are antibodies; and the preselected polypeptides comprise a sequence of amino acids or plurality thereof to which the antibodies bind.

21. (Previously presented) The combination of claim 1 that comprises from 10 up to 106 capture agents that specifically bind to different polypeptides.

22. (Previously presented) The combination of claim 2 that comprises from 10 up to 106 capture agents that specifically bind to different polypeptides.

23. (Previously presented) The combination of claim 15, wherein the length of each of the divider region, epitope and common region, and polypeptide-encoding region (E_m) is at least about14 nucleotides.

24. Cancelled

25. (Currently amended) The combination of claim 1, wherein each oligonucleotide further comprises a common region C, and comprises formula:

~~5' C-Em 3',~~ 5' C-E_m 3',

wherein the common region is shared by each of the oligonucleotides in the set, and is of a sufficient length to serve as a unique priming site for amplifying nucleic acid molecules that comprise the sequence of nucleotides that comprises the common region.

26. (Currently amended) The combination of claim 1, wherein the oligonucleotides comprise formula:

~~5'-Dn-Em-3'~~ 5'-D_n-E_m-3', wherein:

each D is a unique sequence among the set of oligonucleotides and contains at least about10 nucleotides;

each E encodes a sequence of amino acids to which a capture agent binds, wherein each such sequence of amino acids is unique in the set; and

each of n and m is, independently, an integer of 10 or higher.

27. (Previously Presented) The combination of claim 26, wherein the capture agents are antibodies; and the unique sequence of amino acids comprises an epitope a sequence of amino acids to which a capture agent binds.

28. (Previously Presented) The combination of claim 27, wherein m, which is 10 or greater, is the number of antibodies with different epitope specificity in the combination and n is from about 10 up to and including 106.

29. (Previously Presented) The combination of claim 26, wherein m, which is 10 or greater, is the number of capture agents with different epitope specificity in the combination and n is from about 10 up to and including 106.

30. (Previously Presented) The combination of claim 28, wherein n is from about 10 to about104, inclusive.

31. (Previously Presented) The combination of claim 29, wherein n is from about 10 to about 104, inclusive.

32. (Previously Presented) The combination of claim 28, wherein n is from about 10 to about 102, inclusive.

33. (Previously Presented) The combination of claim 2 that comprises up to about 103 antibodies.

34. (Previously Presented) The combination of claim 11, wherein the length of each of the divider region and epitope polypeptide-encoding region (E_m) is independently at least about 14 nucleotides.

35. (Previously Presented) The combination of claim 11, wherein the length of each of the divider region epitope polypeptide-encoding region (E_m) is independently at least about 16 nucleotides.

36. (Original) The combination of claim 1, wherein the oligonucleotides are single-stranded primers.

37. (Original) The combination of claim 1, wherein the oligonucleotides are double-stranded.

Claims 38-48 Cancelled.

49. (Previously Presented) A system for sorting collections of molecules, comprising:

a) a combination of claim 1; and

b) a computer system with software for analyzing results of sorts sorting of molecules tagged with the polypeptides encoded by the oligonucleotides in the combination and bound to the collections of capture agents in the combination via interactions of the tags with the capture agents.

50. (Previously Presented) A system for sorting collections of molecules, comprising:

a) a combination of claim 2; and

b) a computer system with software for analyzing results of sorts sorting of molecules tagged with the polypeptides encoded by the oligonucleotides in the combination and bound to the collections of capture agents in the combination via interactions of the tags with the capture agents.

51. (Previously Presented) The system of claim 49, further comprising a reader for detecting binding to capture agents in the collection.

52. (Previously Presented) The system of claim 51, wherein the reader comprises an imaging system.

53. (Previously Presented) The system of claim 51, wherein the computer system stores data and/or assesses data collected by the reader.

54. (Previously Presented) The system of claim 52, wherein the imaging system is a charge coupled device (CCD) or an array of photodiodes.

Claims 55 –92 Cancelled.

93. (Previously Presented) The combination of claim 1, that comprises from about30 up to about 104 capture agents.

94. (Previously Presented) The combination of claim 29, wherein n is from about 10 up to and including 105.

95. (Previously Presented) The combination of claim 29, wherein n is from about 10 to about103, inclusive.

Claims 96-98 Cancelled.

99. (Currently Amended) The combination of claim 26, wherein each oligonucleotide further comprises a common region C, and comprises formula:

~~5' C-Dn-Em 3'~~ 5' C-D_n-E_m 3', wherein the common region is shared by each of the oligonucleotides in the set, and is of sufficient length to serve as a unique priming site for amplifying nucleic acid molecules that comprise the sequence of nucleotides that comprise the common region.

100. (Previously Presented) A kit, comprising:

a combination of claim 1; and

optionally instructions for use of the collections in the combination for screening or identifying nucleic acids, proteins and other molecules.

101. (Previously Presented) A combination, comprising:

a) a collection of capture agents that specifically bind to preselected polypeptides, wherein the capture agents are linked directly or indirectly to a solid support that comprises optically-encoded beads; and

b) a collection of oligonucleotides that encode the preselected polypeptides to which the capture agents specifically bind, wherein the oligonucleotides are single-stranded, double-stranded or partially double-stranded..

102. (Previously Presented) The combination of claim 101, wherein the optically-encoded beads are colored beads.